

# Natural Gas Annual 1997

October 1998

**Energy Information Administration**  
Office of Oil and Gas  
U.S. Department of Energy  
Washington, DC 20585

## Contacts

The *Natural Gas Annual* is prepared by the Energy Information Administration, Office of Oil and Gas, Reserves and Natural Gas Division, under the direction of Joan E. Heinkel.

General questions and comments concerning the contents of the *Natural Gas Annual* may be obtained from Ann M. Ducca (202/586-6137) or Margo Natof (202/586-6303). Specific inquiries should be referred to the following subject specialists:

Supply.....Sharon Belcher (202) 586-6119  
sbelche@eia.doe.gov

Transmission.....Dolly Tolson (202) 586-6664  
dtolson@eia.doe.gov

Consumption.....Sylvia Norris (202) 586-6106  
snorris@eia.doe.gov

Electronic versions.....Sheila Darnell (202) 586-6165  
sdarnell@eia.doe.gov

# Preface

The *Natural Gas Annual* provides information on the supply and disposition of natural gas to a wide audience including industry, consumers, Federal and State agencies, and educational institutions. The 1997 data are presented in a sequence that follows natural gas (including supplemental supplies) from its production to its end use. This is followed by tables summarizing natural gas supply and disposition from 1993 to 1997 for each Census Division and each State. Annual historical data are shown at the national level.

The data in the *Natural Gas Annual 1997* are taken from surveys conducted by the Energy Information Administration (EIA), U.S. Department of Energy (DOE), to fulfill its responsibilities for gathering and reporting energy data. Two EIA surveys provide most of the information presented in this report—the mandatory Form EIA-176, “Annual Report of Natural and Supplemental Gas Supply and Disposition,” and the Form EIA-895, “Monthly Quantity and Value of Natural Gas Report.” Form EIA-176 was submitted by respondents out of an identified universe of operators of fields, wells, or natural gas processing plants who distribute gas to end users or transport gas to or across a State border; operators of synthetic natural gas plants; natural gas distributors; natural gas pipeline companies; and companies that operate underground natural gas storage facilities. Form EIA-895 was submitted by the appropriate agencies of the 33 natural gas producing States.

Data collected on Form EIA-176 are not proprietary. Selected company-level data are presented in the Consumption section.

Other EIA surveys that provided information for this report are Forms EIA-816, “Monthly Natural Gas Liquids Report,” and EIA-64A, “Annual Report of the Origin of Natural Gas Liquids Production,” for gas processed, plant fuel, and extraction loss data; Form EIA-857, “Monthly Report of Natural

Gas Purchases and Deliveries to Consumers,” for data on the citygate prices; Forms EIA-759, “Monthly Power Plant Report,” and FERC-423, “Monthly Report of Cost and Quality of Fuels for Electric Plants,” for data on the quantity and price of natural gas consumed by electric utilities; and Office of Fossil Energy, “Natural Gas Imports and Exports” for data on the quantity and price of natural gas imports and exports. The EIA report, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, Annual Reports* was the source of the reserves data.

Some of the data are collected under the authority of the Federal Energy Regulatory Commission (FERC), an independent commission within the DOE that has jurisdiction primarily in the regulation of electric utilities and the interstate natural gas industry. The United States Geological Survey (USGS) and the United States Minerals Management Service (MMS) of the Department of the Interior were sources of supplemental information on production, the number of producing gas and gas-condensate wells, and wellhead values. The geographic coverage is the 50 States and the District of Columbia.

All volumes of natural gas in this publication are reported at 14.73 pounds per square inch absolute and 60 degrees Fahrenheit, except where noted. A glossary of terms is provided to assist users in understanding the data presented. A description of the data collection surveys appears in Appendix A. Appendix B describes metric and thermal conversion factors, Appendix C lists additional natural gas information sources, and Appendix D provides a list (and description) of the various natural gas publications/products and their location on the EIA Internet site.

The tables of data that appear in this report are available on personal computer diskettes and the Internet. See Appendix D for further details.

Beginning with the *Natural Gas Annual 1997* report, the former Table 6, “Estimated Total Dry Natural Gas Proved Reserves by State,” now appears in Appendix A as Table A6.

# Contents

	Page
Overview . . . . .	1
Supply . . . . .	9
Transmission . . . . .	17
Consumption . . . . .	35
Consumer Prices . . . . .	51
Census Division Summaries . . . . .	67
State Summaries . . . . .	91
Historical Data. . . . .	197
Appendices	
A. Summary of Data Collection Operations and Report Methodology. . . . .	209
B. Metric and Thermal Conversion Tables . . . . .	235
C. Selected Natural Gas and Related Reports. . . . .	241
D. Natural Gas Electronic Products . . . . .	245
Glossary . . . . .	251

# Tables

	Page
1. Summary Statistics for Natural Gas in the United States, 1993-1997 . . . . .	4
2. Natural Gas Production, Transmission, and Consumption by State, 1997 . . . . .	7
3. Gross Withdrawals and Marketed Production of Natural Gas by State, 1993-1997 . . . . .	12
4. Offshore Gross Withdrawals of Natural Gas by State, 1993-1997 . . . . .	13
5. Number of Producing Gas and Gas Condensate Wells by State as of December 31, 1993-1997. . . . .	14
6. Wellhead Value and Marketed Production of Natural Gas by State, 1993-1997 . . . . .	15
7. Natural Gas Processed, Liquids Extracted, and Estimated Extraction Loss by State, 1997 . . . . .	16
8. Interstate Movements and Movements Across U.S. Borders of Natural Gas by State, 1997 . . . . .	22
9. Summary of U.S. Natural Gas Imports and Exports, 1993-1997 . . . . .	30
10. Additions to and Withdrawals from Gas Storage by State, 1997 . . . . .	31
11. Underground Natural Gas Storage Capacity by State, December 31, 1997. . . . .	32
12. Supplemental Gas Supplies by State, 1997 . . . . .	33
13. Consumption of Natural Gas by State, 1993-1997 . . . . .	38
14. Natural Gas Delivered to Consumers by State, 1993-1997 . . . . .	39
15. Natural Gas Delivered to Commercial Consumers for the Account of Others by State, 1993-1997 . . . . .	42
16. Natural Gas Delivered to Industrial Consumers for the Account of Others by State, 1993-1997 . . . . .	44
17. Natural Gas Delivered to Electric Utilities for the Account of Others by State, 1993-1997 . . . . .	45
18. Firm Natural Gas Deliveries to Consumers by State, 1997 . . . . .	46
19. Interruptible Natural Gas Deliveries to Consumers by State, 1997 . . . . .	47
20. Natural Gas Deliveries to Commercial Consumers by State, 1997 . . . . .	48
21. Natural Gas Deliveries to Industrial Consumers by State, 1997 . . . . .	49
22. Natural Gas Deliveries to Electric Utilities by State, 1997 . . . . .	50
23. Average City Gate Price of Natural Gas in the United States, 1993-1997 . . . . .	55
24. Average Price of Natural Gas Delivered to Residential Consumers by State, 1993-1997 . . . . .	56
25. Average Prices of Natural Gas to Consumers by State, 1997 . . . . .	57
26. Prices of Natural Gas Deliveries to Commercial Consumers by State, 1997 . . . . .	60
27. Prices of Natural Gas Deliveries to Industrial Consumers by State, 1997 . . . . .	61
28. Prices of Natural Gas Deliveries to Electric Utilities by State, 1997 . . . . .	62
29. Leading Suppliers of Natural Gas Sold to Residential Customers in the United States, 1997 . . . . .	63
30. Leading Suppliers of Natural Gas Sold to Commercial Consumers in the United States, 1997 . . . . .	64
31. Leading Suppliers of Natural Gas Sold and Transported in the United States, 1997 . . . . .	65
32. Average Residential Annual Consumption and Cost of Natural Gas per Consumer by State, 1996-1997 . . . . .	66
33. Natural Gas Delivered to Consumers by Census Division, 1997 . . . . .	68
34. Average Price of Natural Gas Delivered to Consumers by Census Division, 1996-1997 . . . . .	69
35. Summary Statistics for Natural Gas - New England, 1993-1997 . . . . .	70
36. Summary Statistics for Natural Gas - Middle Atlantic, 1993-1997 . . . . .	72
37. Summary Statistics for Natural Gas - East North Central, 1993-1997 . . . . .	74
38. Summary Statistics for Natural Gas - West North Central, 1993-1997 . . . . .	76
39. Summary Statistics for Natural Gas - South Atlantic, 1993-1997. . . . .	78
40. Summary Statistics for Natural Gas - East South Central, 1993-1997 . . . . .	80
41. Summary Statistics for Natural Gas - West South Central, 1993-1997 . . . . .	82
42. Summary Statistics for Natural Gas - Mountain, 1993-1997 . . . . .	84
43. Summary Statistics for Natural Gas - Pacific Contiguous, 1993-1997 . . . . .	86
44. Summary Statistics for Natural Gas - Pacific Noncontiguous, 1993-1997 . . . . .	88
45. Percent Distribution of Natural Gas Supply and Disposition by State, 1997 . . . . .	92
46. Percent Distribution of Natural Gas Delivered to Consumers by State, 1997. . . . .	93
47. Summary Statistics for Natural Gas - Alabama, 1993-1997 . . . . .	94
48. Summary Statistics for Natural Gas - Alaska, 1993-1997. . . . .	96
49. Summary Statistics for Natural Gas - Arizona, 1993-1997 . . . . .	98
50. Summary Statistics for Natural Gas - Arkansas, 1993-1997. . . . .	100
51. Summary Statistics for Natural Gas - California, 1993-1997 . . . . .	102
52. Summary Statistics for Natural Gas - Colorado, 1993-1997. . . . .	104
53. Summary Statistics for Natural Gas - Connecticut, 1993-1997 . . . . .	106
54. Summary Statistics for Natural Gas - Delaware, 1993-1997. . . . .	108
55. Summary Statistics for Natural Gas - District of Columbia, 1993-1997. . . . .	110
56. Summary Statistics for Natural Gas - Florida, 1993-1997 . . . . .	112

57. Summary Statistics for Natural Gas - Georgia, 1993-1997 . . . . .	114
58. Summary Statistics for Natural Gas - Hawaii, 1993-1997 . . . . .	116
59. Summary Statistics for Natural Gas - Idaho, 1993-1997 . . . . .	118
60. Summary Statistics for Natural Gas - Illinois, 1993-1997 . . . . .	120
61. Summary Statistics for Natural Gas - Indiana, 1993-1997 . . . . .	122
62. Summary Statistics for Natural Gas - Iowa, 1993-1997 . . . . .	124
63. Summary Statistics for Natural Gas - Kansas, 1993-1997 . . . . .	126
64. Summary Statistics for Natural Gas - Kentucky, 1993-1997 . . . . .	128
65. Summary Statistics for Natural Gas - Louisiana, 1993-1997 . . . . .	130
66. Summary Statistics for Natural Gas - Maine, 1993-1997 . . . . .	132
67. Summary Statistics for Natural Gas - Maryland, 1993-1997 . . . . .	134
68. Summary Statistics for Natural Gas - Massachusetts, 1993-1997 . . . . .	136
69. Summary Statistics for Natural Gas - Michigan, 1993-1997 . . . . .	138
70. Summary Statistics for Natural Gas - Minnesota, 1993-1997 . . . . .	140
71. Summary Statistics for Natural Gas - Mississippi, 1993-1997. . . . .	142
72. Summary Statistics for Natural Gas - Missouri, 1993-1997 . . . . .	144
73. Summary Statistics for Natural Gas - Montana, 1993-1997 . . . . .	146
74. Summary Statistics for Natural Gas - Nebraska, 1993-1997. . . . .	148
75. Summary Statistics for Natural Gas - Nevada, 1993-1997. . . . .	150
76. Summary Statistics for Natural Gas - New Hampshire, 1993-1997 . . . . .	152
77. Summary Statistics for Natural Gas - New Jersey, 1993-1997 . . . . .	154
78. Summary Statistics for Natural Gas - New Mexico, 1993-1997. . . . .	156
79. Summary Statistics for Natural Gas - New York, 1993-1997 . . . . .	158
80. Summary Statistics for Natural Gas - North Carolina, 1993-1997. . . . .	160
81. Summary Statistics for Natural Gas - North Dakota, 1993-1997 . . . . .	162
82. Summary Statistics for Natural Gas - Ohio, 1993-1997 . . . . .	164
83. Summary Statistics for Natural Gas - Oklahoma, 1993-1997 . . . . .	166
84. Summary Statistics for Natural Gas - Oregon, 1993-1997. . . . .	168
85. Summary Statistics for Natural Gas - Pennsylvania, 1993-1997. . . . .	170
86. Summary Statistics for Natural Gas - Rhode Island, 1993-1997. . . . .	172
87. Summary Statistics for Natural Gas - South Carolina, 1993-1997. . . . .	174
88. Summary Statistics for Natural Gas - South Dakota, 1993-1997 . . . . .	176
89. Summary Statistics for Natural Gas - Tennessee, 1993-1997 . . . . .	178
90. Summary Statistics for Natural Gas - Texas, 1993-1997 . . . . .	180
91. Summary Statistics for Natural Gas - Utah, 1993-1997 . . . . .	182
92. Summary Statistics for Natural Gas - Vermont, 1993-1997 . . . . .	184
93. Summary Statistics for Natural Gas - Virginia, 1993-1997 . . . . .	186
94. Summary Statistics for Natural Gas - Washington, 1993-1997 . . . . .	188
95. Summary Statistics for Natural Gas - West Virginia, 1993-1997 . . . . .	190
96. Summary Statistics for Natural Gas - Wisconsin, 1993-1997 . . . . .	192
97. Summary Statistics for Natural Gas - Wyoming, 1993-1997 . . . . .	194
98. Quantity and Average Price of Natural Gas Production in the United States, 1930-1997. . . . .	199
99. Supply and Disposition of Natural Gas in the United States, 1930-1997 . . . . .	202
100. Natural Gas Consumption in the United States, 1930-1997 . . . . .	205
101. Average Price of Natural Gas Delivered to U. S. Consumers, 1967-1997. . . . .	208
A1. Comparison of Electric Utility Natural Gas Consumption Data by State, 1997. . . . .	228
A2. Natural Gas Unaccounted for by State, 1993-1997 . . . . .	229
A3. Natural Gas Processed and Liquids Extracted at Natural Gas Processing Plants by State, 1997 . . . . .	230
A4. Estimated Composition of Liquids Extracted at Natural Gas Processing Plants and the Resulting Heat Content Extraction Loss by State, 1997 . . . . .	231
A5. Natural Gas Processed, Liquids Extracted, and Estimated Extraction Loss by State of Origin (Production) of Natural Gas, 1997 . . . . .	232
A6. Estimated Total Dry Natural Gas Proved Reserves by State, 1993-1997 . . . . .	233
B1. Summary Statistics for Natural Gas in the United States, Metric Equivalents, 1993-1997 . . . . .	238
B2. Thermal Conversion Factors and Data, 1993-1997 . . . . .	240

# Illustrations

Page

1. Natural Gas Flow Diagram, 1997 . . . . .	1
2. Selected Average Prices of Natural Gas in the United States, 1993 - 1997 . . . . .	3
3. Natural Gas Supply and Disposition in the United States, 1997 . . . . .	6
4. Marketed Production of Natural Gas in the United States, 1997 . . . . .	9
5. Marketed Production of Natural Gas in Selected States, 1993 - 1997 . . . . .	11
6. Principal Interstate Natural Gas Flow Summary, 1997 . . . . .	17
7. Net Imports as a Percentage of Total Consumption of Natural Gas, 1972 - 1997 . . . . .	28
8. Flow of Natural Gas Imports and Exports, 1997 . . . . .	29
9. Locations of Existing Natural Gas Underground Storage Fields in the United States . . . . .	32
10. Natural Gas Delivered to Consumers in the United States, 1993 - 1997 . . . . .	35
11. Natural Gas Delivered to Consumers in the United States, 1997 . . . . .	41
12. Percent of Natural Gas Deliveries in the United States Representing Deliveries for the Account of Others, by Consumer Sector, 1993 - 1997 . . . . .	43
13. Average Price of Natural Gas Delivered to Consumers in the United States, 1993 - 1997 . . . . .	51
14. Average Price of Natural Gas Delivered to Residential Consumers, 1980 - 1997 . . . . .	53
15. Average City Gate Price of Natural Gas in the United States, 1997 . . . . .	54
16. Average Price of Natural Gas Delivered to U.S. Residential Consumers, 1997 . . . . .	58
17. Average Price of Natural Gas Delivered to U.S. Onsystem Commercial Consumers, 1997 . . . . .	58
18. Average Price of Natural Gas Delivered to U.S. Onsystem Industrial Consumers, 1997 . . . . .	59
19. Average Price of Natural Gas Delivered to U.S. Electric Utilities, 1997 . . . . .	59
20. Marketed Production of Natural Gas by Census Division, 1997 . . . . .	68
21. Natural Gas Delivered to Consumers by Census Division, 1997 . . . . .	69
22. Natural Gas Supply and Disposition in the United States, 1967-1997 . . . . .	201
23. Natural Gas Delivered to Consumers in the United States, 1930 - 1997 . . . . .	204
24. Average Price of Natural Gas Delivered to U.S. Consumers, 1967 - 1997 . . . . .	207
A1. Form EIA-176 . . . . .	214
A2. Form EIA-176, Short Form . . . . .	220
A3. Form EIA-895 . . . . .	225